

## **REMARKS**

In accordance with the foregoing, claims 1, 4, 5 and 8 are amended. No new matter is added. Claims 1-8 are pending and under consideration.

### **INTERVIEW WITH THE EXAMINER**

First, Applicants wish to thank the Examiner for the courtesy of an interview granted to Applicants' representative on October 8, 2008, at which time the outstanding issues in this case were discussed. Arguments similar to the ones developed hereinafter were presented, and the Examiner indicated that, in light of the arguments and claim amendments, he would reconsider the outstanding grounds for rejection upon formal submission of a response.

### **CLAIM REJECTIONS UNDER 35 U.S.C. §103**

Claims 1-3 and 5-7 are rejected under 35 U.S.C. §103 as allegedly being unpatentable over Applicant Admitted Prior Art (AAPA) in view of U.S. Patent No. 5,506,863 to Meidan et al. (hereinafter "Meidan").

Independent claim 1 is amended herewith to clarify the claimed subject matter. The claim amendments are supported by the originally filed specification and claims, for example, FIGS. 1A, 1B, 1C, and 2, pages 6-8 (the first embodiment) of the specification. No new matter is added.

Amended independent claim 1 clarifies that the reference local oscillation signal is regenerated in each of the wireless communication stations, and, then, used to modulate/demodulate a transmission signal in the frequency hopping system.

AAPA describes modulation/demodulation performed using local oscillation signals generated in each of the wireless communication terminals. The local oscillation signals are not a reference local oscillation that is regenerated in each station from the same reference local oscillation signal output by a transmitting station as recited in claim 1.

Meidan discloses that wireless communication terminals synchronize their local oscillation signals using a reference time received from a GPS. The reference time received from the GPS is not the same as a reference local oscillation that is regenerated in each station from the same reference local oscillation signal as recited in claim 1.

Amended independent claim 1 and claims 2 and 3 depending from claim 1 patentably distinguish from the cited prior art at least by reciting:

- receiving the reference local oscillation signal from the transmitting station, amplifying and band filtering the received signal, **regenerating the reference local oscillation signal** by an injection synchronous oscillator or an amplifier **in each of the wireless communication terminals**;
- modulating a transmission signal in a frequency hopping system **using the regenerated reference local oscillation**; and
- performing mutual communications using the transmission signal which is demodulated in each receiving wireless communication terminal of the plurality of wireless communication terminals **using the regenerated reference local oscillation**. (Emphasis ours for the features which are not rendered obvious by the cited prior art.)

Claim 5 is directed to a frequency hopping wireless communication system that functions similarly to the method recited in claim 1. Following the interview, Applicants have amended claim 5 to clarify the claimed subject matter.

Amended claim 5 and claims 6 and 7 depending from claim 1 patentably distinguish over the cited prior art because at least the following features recited in claim 5 are not rendered obvious:

- **a receiving unit** that amplifies and band filters a signal received from the transmitting station to regenerate the reference local oscillation signal by an injection synchronous oscillator or an amplifier, and generates an intermediate frequency band demodulation signal **downconverted by multiplying a received radio modulation signal by the reference oscillation signal**, and demodulates the intermediate frequency band demodulation signal in the intermediate frequency band modem; and
- a transmitting unit that **generates and transmits a radio modulation signal by multiplying an intermediate frequency band modulation signal** from an intermediate frequency band modem **by the reference local oscillation signal**.

Claims 4 and 8 are rejected under 35 U.S.C. §103 as allegedly being unpatentable over AAPA and Meidan and further in view of "Proposal of Millimeter-wave Self-heterodyne Communication System", Communications Research Laboratory, Ministry of Posts and Telecommunications, June 2000 to Yozo Shoji et al. (hereinafter "Shoji").

Independent claim 4 is amended herewith to clarify that the "local oscillation signal component [...]" is the local oscillation signal used in the upconverting the modulation signal."

Applicants believed that this feature is inherent in view of whole claim language, but they amend the claim herewith to preclude any possible misunderstanding.

The cited prior art references alone or in combination do not teach or suggest **"simultaneously transmitting a frequency hopping radio modulation signal [...] and the local oscillation signal used in the upconverting"** as recited in claim 4. As illustrated in a non-limiting embodiment in FIG. 5 of the specification, the local oscillation signal (black peak) is transmitted together with the double sided frequency hopping modulated signal (grey bands in FIG. 5). Therefore, since such a transmission is not contemplated, the cited prior art references do not render obvious "downconverting a received signal by the receiving unit to a first intermediate frequency band signal using a local oscillation signal frequency hopping in a pattern obtained by adding a fixed frequency offset to a frequency hopping pattern corresponding to a desired reception wave, and then **extracting two signal components, a local oscillation signal component that is the local oscillation signal used in the upconverting the modulation signal, and a modulation signal component, by passing the downconverted signal through a band pass filter, and generating a product component of the two signal components, thereby regenerating a second intermediate frequency band modulation signal.**" At least for these reasons claim 4 is patentable over the cited prior art.

Amended independent claim 8 is also patentable at least by reciting that "the transmitting unit [...] **simultaneously transmits a frequency hopping radio modulation signal [...] and the local oscillation signal used in the upconversion**" and "the receiving unit downconverts a received signal to a first intermediate frequency band signal using a local oscillation signal frequency hopping in a pattern obtained by adding a fixed frequency offset to a frequency hopping pattern corresponding to a desired reception wave, and then **extracts two signal components, that is, a local oscillation signal component that is the local oscillation signal used in the upconverting the modulation signal, and a modulation signal component, by passing the downconverted signal through a band pass filter, and generates a product component of the two signal components, thereby regenerating a second intermediate frequency band modulation signal.**"

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

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If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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